WHAT IS CLAIMED IS:

1. An image processing method of performing a halftone dot processing in which first image data representative of pixel values of a plurality of pixels constituting an image is converted into second image data representative of dot patterns of halftone dots,

wherein said image processing method performs the halftone dot processing in which a first dot% of dot patterns, wherein mutually contacting dot patterns first appear with respect to an identical direction on the image, in the event that the halftone dot processing is repeatedly performed while pixel values of pixels on an image comprising a plurality of pixels all of which are same in pixel value are sequentially varied from a lower density end to a higher density end uniformly, is different from a second dot% of dot patterns wherein all the dot patterns, which are adjacent to one another with respect to the identical direction.

2. An image processing method according to claim 1, wherein said halftone dot processing is a process for comparing pixel values of pixels on an image represented by the first image data with thresholds of a halftone pattern comprising an arrangement of thresholds, which are mutually superimposed, in the event that the halftone pattern is superimposed on the image, to convert the pixel values of

the respective pixels on the image into binary values or multi-values more than the binary values, and

said halftone dot processing is performed using a halftone pattern in which thresholds are adjusted in such a manner that the first dot% regarding a same direction on the image is different from the second dot%, said halftone pattern being concerned with such a pattern that when a dot cell associated with one halftone dot is regarded as a unit, there are arranged a plurality of sorts of dot cells in which at least part of thresholds arranged on the dot cells are relatively different from pixel values on an image area on which the dot cells are superimposed.

3. An image processing method according to claim 1, wherein said halftone dot processing is performed in such a manner that the first dot% of dot patterns, wherein mutually contacting dot patterns first appear with respect to an identical direction on the image, in the event that the halftone dot processing is repeatedly performed while pixel values of pixels on an image comprising a plurality of pixels all of which are same in pixel value are sequentially varied from a lower density end to a higher density end uniformly, is different from the second dot% of dot patterns wherein all the dot patterns, which are adjacent to one another with respect to the identical direction, and further the first dot%-to-first dot% with respect to the mutually different direction, and the second

dot%-to-second dot% with respect to the mutually different direction are mutually different, respectively.

4. An image processing method according to claim 3, wherein said halftone dot processing is a process for comparing pixel values of pixels on an image represented by the first image data with thresholds of a halftone pattern comprising an arrangement of thresholds, which are mutually superimposed, in the event that the halftone pattern is superimposed on the image, to convert the pixel values of the respective pixels on the image into binary values or multi-values more than the binary values, and

said halftone dot processing is performed using a halftone pattern in which thresholds are adjusted in such a manner that the first dot%-to-first dot% with respect to the mutually different direction, and the second dot%-to-second dot% with respect to the mutually different direction are mutually different, respectively, said halftone pattern being concerned with such a pattern that when a dot cell associated with one halftone dot is regarded as a unit, there are arranged a plurality of sorts of dot cells in which at least part of thresholds arranged on the dot cells are relatively different from pixel values on an image area on which the dot cells are superimposed.

5. An image processing method according to claim 2, wherein said halftone dot processing is performed using

a halftone pattern in which there are arranged a plurality of sorts of dot cells for forming dot patterns, which are identical with one another in growth process with respect to the shape and are different from one another in degree of growth in at least part of mean dot% range, in the event that the halftone dot processing is repeated while pixel values on the image are sequentially varied from the lower density end to the higher density end uniformly.

6. An image processing method according to claim 4, wherein said halftone dot processing is performed using a halftone pattern in which there are arranged a plurality of sorts of dot cells for forming dot patterns, which are identical with one another in growth process with respect to the shape and are different from one another in degree of growth in at least part of mean dot% range, in the event that the halftone dot processing is repeated while pixel values on the image are sequentially varied from the lower density end to the higher density end uniformly.

7. An image processing method according to claim 2, wherein said halftone dot processing is performed using a halftone pattern in which there are arranged a plurality of sorts of dot cells for forming dot patterns, which grow while maintaining the same dot% and are mutually different with respect to the shape in at least part of dot% range, in the event that the halftone dot processing is repeated

while pixel values on the image are sequentially varied from the lower density end to the higher density end uniformly.

8. An image processing method according to claim 4, wherein said halftone dot processing is performed using a halftone pattern in which there are arranged a plurality of sorts of dot cells for forming dot patterns, which grow while maintaining the same dot% and are mutually different with respect to the shape in at least part of dot% range, in the event that the halftone dot processing is repeated while pixel values on the image are sequentially varied from the lower density end to the higher density end uniformly.

9. An image processing method according to claim 2, wherein said halftone dot processing is performed using a halftone pattern in which there are arranged a plurality of sorts of dot cells wherein there are arranged thresholds which are relatively adjusted to pixel values of the image area to be superimposed in such a manner that a difference between minimum dot% of the first dot% regarding mutually different directions and maximum dot% of the second dot% regarding mutually different directions is not less than 1%.

10. An image processing method according to claim 4, wherein said halftone dot processing is performed using

a halftone pattern in which there are arranged a plurality of sorts of dot cells wherein there are arranged thresholds which are relatively adjusted to pixel values of the image area to be superimposed in such a manner that a difference between minimum dot% of the first dot% regarding mutually different directions and maximum dot% of the second dot% regarding mutually different directions is not less than 1%.

11. An image processing apparatus for performing a halftone dot processing in which first image data representative of pixel values of a plurality of pixels constituting an image is converted into second image data representative of dot patterns of halftone dots, said image processing apparatus comprising:

a data conversion unit for comparing pixel values of pixels on an image represented by said first image data with a threshold of halftone patterns comprising an arrangement of thresholds, which are mutually superimposed, in the event that the halftone patterns are superimposed on the image, to convert the pixel values of the respective pixels on the image into multi-values not less than binary values, so that the second image data representative of dot patterns of the respective halftone dots is produced; and

a halftone pattern storage unit for storing the halftone patterns in which thresholds are adjusted so as to obtain dot patterns wherein a first dot% of dot patterns, wherein mutually contacting dot patterns first appear with

respect to the same direction on the image, in the event that the halftone pattern is concerned with such a halftone pattern that when a dot cell associated with one halftone dot is regarded as a unit, there are arranged a plurality of sorts of dot cells in which at least part of thresholds arranged on the dot cell is different from among dot cells, and in addition in the event that the data conversion unit repeatedly performs the data conversion processing, using the halftone patterns, while the pixel values of the pixels on the image comprising a plurality of pixels all of which are same in pixel value are sequentially varied from the lower density end to the higher density end uniformly, is different from a second dot% of dot patterns wherein all the dot patterns, which are adjacent to one another with respect to the same direction, are in contact with one another,

wherein said data conversion unit performs the data conversion processing using the halftone patterns stored in said halftone pattern storage unit.

12. An image processing apparatus according to claim 11, wherein said halftone pattern storage unit stores the halftone patterns in which thresholds are adjusted so as to obtain dot patterns wherein a first dot% of dot patterns, wherein mutually contacting dot patterns first appear with respect to the same direction on the image, in the event that the halftone pattern is concerned with such

a halftone pattern that when a dot cell associated with one halftone dot is regarded as a unit, there are arranged a plurality of sorts of dot cells in which at least part of thresholds arranged on the dot cell is different from among dot cells, and in addition in the event that the data conversion unit repeatedly performs the data conversion processing, using the halftone patterns, while the pixel values of the pixels on the image comprising a plurality of pixels all of which are same in pixel value are sequentially varied from the lower density end to the higher density end uniformly, is different from a second dot% of dot patterns wherein all the dot patterns, which are adjacent to one another with respect to the same direction, are in contact with one another, said halftone patterns being a pattern in which thresholds are adjusted in such a manner that mutually different dot patterns are obtained as to the first dot%-to-first dot% with respect to the mutually different direction, and as to the second dot%-to-second dot% with respect to the mutually different direction.

13. An image processing apparatus for performing a halftone dot processing in which first image data representative of pixel values of a plurality of pixels constituting an image is converted into second image data representative of dot patterns of halftone dots, said image processing apparatus comprising:

a data correction unit for performing an arithmetic operation between pixel values of pixels on an image represented by said first image data and correction values of a correction pattern comprising an arrangement of correction values, which are mutually superimposed, in the event that the correction pattern is superimposed on the image, to correct the pixel values of the respective pixels on the image, so that there is executed a data correction processing for generating third image data representative of pixel values after correction of a plurality of pixels constituting the image; and

a data conversion unit for comparing pixel values of pixels on an image represented by the third image data generated in said data correction unit with a threshold of a halftone pattern comprising an arrangement of thresholds, which are mutually superimposed, in the event that the halftone pattern is superimposed on the image, to convert the pixel values of the respective pixels on the image into multi-values not less than binary values, so that second image data representative of dot patterns of the respective halftone dots is generated,

wherein said data conversion unit performs the data correction processing using a correction pattern in which correction values are adjusted so as to obtain dot patterns wherein a first dot% of dot patterns, wherein mutually contacting dot patterns first appear with respect to the same direction on the image, in the event that the

correction pattern is concerned with such a correction pattern that when a correction cell associated with one halftone dot is regarded as a unit, there are arranged a plurality of sorts of correction cells in which at least part of correction values arranged on the correction cell is different from among correction cells, and in addition in the event that the data correction processing by said data correction unit and the data conversion processing by said data conversion unit are repeatedly performed while the pixel values of the pixels on the image comprising a plurality of pixels all of which are same in pixel value are sequentially varied from the lower density end to the higher density end uniformly, is different from a second dot% of dot patterns wherein all the dot patterns, which are adjacent to one another with respect to the same direction, are in contact with one another.

14. An image processing apparatus according to claim 13, wherein said data conversion unit performs the data correction processing using a correction pattern in which correction values are adjusted so as to obtain dot patterns wherein a first dot% of dot patterns, wherein mutually contacting dot patterns first appear with respect to the same direction on the image, in the event that the correction pattern is concerned with such a correction pattern that when a correction cell associated with one halftone dot is regarded as a unit, there are arranged a

plurality of sorts of correction cells in which at least part of correction values arranged on the correction cell is different from among correction cells, and in addition in the event that the data correction processing by said data correction unit and the data conversion processing by said data conversion unit are repeatedly performed while the pixel values of the pixels on the image comprising a plurality of pixels all of which are same in pixel value are sequentially varied from the lower density end to the higher density end uniformly, is different from a second dot% of dot patterns wherein all the dot patterns, which are adjacent to one another with respect to the same direction, are in contact with one another, said correction pattern being a pattern in which correction values are adjusted in such a manner that mutually different dot patterns are obtained also as to the first dot%-to-first dot% with respect to the mutually different direction, and the second dot%-to-second dot% with respect to the mutually different direction.